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Abstract
Ascaridia galli is a major species of nemathelminthes encountered in the domestic fowl all around the world. An adult layer bird (Rajasri) of nineteen weeks age was presented for postmortem examination to the Department of Veterinary Pathology, College of Veterinary Science, Hyderabad. Clinically birds showed retarded growth, emaciation, diarrhea, unthriftiness and drooping wings. Upon necropsy examination, the carcass was emaciated and internal organs were pale. The presence of large, thick white ascarid worms were observed in gizzard, which is an aberrant location, usually these worms localize in the intestinal lumen. In the present case study the worms were located at gizzard and duodenal junction resulted in impaction. Grossly, all the visceral organs were pale, liver showed mild fatty changes with urate crystal deposits, cloudy air sacs and the entire length of intestine showed hemorrhages.

Keywords: Ascaridia galli, nemathelminthes, Rajasri, gizzard and duodenum

1. Introduction
Ascaridia galli is one of the most common parasitic infection encountered in the poultry industry causing major economic losses. The infection rate is more in deep litter system [1]. Infection is acquired by the ingestion of feed and water contaminated by eggs or indirectly by consumption of the transport host (earthworms). After ingestion of the infective egg, the egg hatches in the small intestine and the larva embeds in the mucosal layer of the duodenum [2]. Matured worm migrates to the intestinal lumen where it feeds on the intestinal contents and the host blood. The diagnosis of A. galli is based on fecal examination of parasitic eggs or direct identification of the adult worms [3]. A. galli also acts a potential vector for Salmonella enterica in poultry [4]. The nematode’s direct life cycle and the environmental resistance of its eggs are responsible for the quick spread of the infection under poultry management systems [5]. Sometimes, the adult parasites may migrate via cloaca or by penetration of the intestine and reach the eggs [6]. However, it may not cause any hazard to public health but a potential consumer’s complaint [7]. Clinical signs include anorexia, weight loss, blood tinged diarrhea, altered hormonal level and eventually death [8, 9]. In heavy infections, the worms may cause blockage leading to death of the bird [9]. Grossly, intestinal segments harboring thick white worms associated with enteritis and edema of the wall can be noticed upon necropsy [10].

The present case deals with the presence of Ascaridia galli in an aberrant location i.e gizzard and duodenal junction caused the gizzard impaction in a nineteen week old Rajasri chicken based on history, clinical signs and gross pathological findings.

2. Materials and Methods
An adult layer bird of nineteen weeks age was presented for postmortem examination to the Department of Veterinary Pathology, College of Veterinary Science, Hyderabad. The diagnosis was based on history, clinical signs and gross pathological findings. History revealed that the bird was suffering with anorexia leading to emaciation. Clinically the bird showed anorexia, retarded growth, emaciation, diarrhea, unthriftiness, soiled feathers, drooping wings and death. A detailed postmortem examination was conducted and the gross necropsy changes in the gizzard, small intestine, heart, liver and lungs were noted.

3. Results and Discussion
An adult layer bird of nineteen weeks age was presented for postmortem examination to the Department of Veterinary Pathology, College of Veterinary Science, Hyderabad.
3.1 Clinical signs
Clinically the bird showed anorexia, retarded growth, emaciation, diarrhea, unthriftness, soiled feathers, drooping wings and death. The clinical signs exhibited by the bird are a result of gizzard impaction and blockage of the intestinal lumen by the adult worms. Similar clinical signs were also reported by previous authors [8, 9, 10].

3.2 Gross pathology
Upon necropsy examination, the carcass was emaciated and pale which might be a result of excessive blood loss due to feeding of the parasites on host blood (Fig. 1). The visceral organs were pale.

Grossly, liver was pale and discolored showing rounded edges, mild fatty changes with uric acid deposits (Fig. 3). Cut sections of the liver showed variable areas of necrosis and fatty degeneration. These changes might be as a result of systemic diseases like colibacillosis or salmonellosis.

Thick, long creamy white worms (Ascaridia galli - confirmed by parasitological examination) were aberrantly noticed in the gizzard and also at the gizzard duodenal junction (Fig. 4) resulted in impaction of the respective organs. The mucosa of the gizzard showed hemorrhages which might be as a result of injury caused by the worms. The duodenal mucosa was thickened and edematous. The lumen was filled with large white parasites causing blockage of the lumen. Entire length of the intestine showed congestion, hemorrhages and thickened wall, this might be due to the migration of infective stages of larvae of Ascaridia galli which injured the intestinal mucosa for its feeding.

Peritonitis and cloudy air sacs, foamy exudates were also noticed which might be as a result of secondary bacterial infection (Fig. 2) not cultured in present clinical case. Similar gross lesions were also reported by previous authors [10, 11]. The necrosis and inflammation of the intestine may be as a result of penetration of the worms into the intestinal epithelium. Moreover, this may also be due to the fact that the embryonated eggs containing second stage larvae may be ingested and hatched in the intestinal wall and produce gross pathological lesions, including intestinal hemorrhagic enteritis, necrotic patches and reddish spots on the intestinal wall [11].

Toxins of A. galli adversely influence the enzyme systems in the intestinal mucosa and interfere with the normal absorption of nutrients in the intestine leading to emaciation [12].

4. Conclusion
From the above findings, it can be concluded that the bird was suffering from Ascaridia galli infection which led to the death of the bird due to anemia, gizzard impaction and blockage of the intestinal lumen by adult worms.
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6. References